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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/070,582 | 03/08/2002 | Dennis Crockett | 16795-2 | 6875 |

7590

02/03/2003

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| EXAMINER |
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TRAN, LY T

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| ART UNIT | PAPER NUMBER |
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2853

DATE MAILED: 02/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,582

Applicant(s)

CROCKETT ET AL.

Examiner

Ly T TRAN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1- 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It's unclear what's feeding circuit (Claim 1). Should be change to "feeding line".

It's unclear what high density pigment (Claim 8) is.

Claims 2-7 either depend directly or indirectly to claim 1, therefore they are also rejected due to their dependency

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto et al. (USPN 5,943078) in view of Applicant's disclosure (Page 3) and Hermanson et al. (USPN 5,341,162).

Nishimoto discloses an ink jet printing device comprising an ink jet head (Fig.9: element 1100), an ink reservoir (Fig.9: element 1401), a feeding line (Fig.9: element 1452, 1451), a re-circulation loop (Fig.9: element 1302, 1351, 1354) and stirring system (Fig.9: element 1402a).

However, Nishimoto et al fails to teach the mixing means and a means of heating the ink.

Applicant's disclosure teaches that static mixer is a well-known apparatus located within a straight tube part (Page 3: line 22-26).

Hermanson et al. teaches a means of heating the ink (Fig.2: element 32).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Nishimoto et al to have mixer as taught by Applicant's disclosure. The motivation of doing so is in order to stirring the ink.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Nishimoto et al to have a means of heating the ink as taught by Hermanson. The motivation of doing so is the removal of gasses dissolved in the ink improves print quality (Hermanson USPN 5,341,162, Abstract).

3. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto et al. (USPN 5,943078) in view of Applicant's disclosure (Page 3) and Hermanson et al. (USPN 5,341,162) as applied to claim 1 and 2 above, further in view of Nakagaki (EP 60110458).

The combination of Nishimoto et al, applicant's disclosure and Hermanson et al fails to teach stirring means consist of a magnetic stirring and pigment ink.

Nakagaki teaches stirring means consist of a magnetic stirring (Fig.: element 27, Abstract) and pigment ink (Abstract)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Nishimoto et al, applicant's disclosure and Hermanson et al to have the magnetic stirring as taught by Nakagaki. The motivation of doing so is in order to prevent the sedimentation and deposition of pigment ink (Abstract).

Allowable Subject Matter

4. Claims 3-6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 3 is allowable over prior art of record because at least prior art have not been found to anticipate or teach the print head feeding circuit comprises a filter place between two static mixer, upstream of the print head and filter heating means arranged in such a manner that the ink temperature in the filter is higher than elsewhere in the print head supply line.

Claim 4-6 are allowable over prior art of record because at least prior art have not been found to anticipate or teach the re-circulation loop comprises a re-circulation pump located between two static mixers.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Due et al. (USPN 5,444,472) discloses a static mixer (Fig.2: element 24).
- Barinaga (USPN 6,478,415) discloses using dye ink or pigment ink
(Column 11: line 36-46)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 703-308-0752. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0967.


ANH T.N. VO
PRIMARY EXAMINER

January 14, 2003

1/16/03